APPENDIX F

WASHINGTON DEPARTMENT OF ECOLOGY

RESPONSE TO PUBLIC COMMENTS

AGRIUM
P.O. BOX 5797
KENNEWICK, WASHINGTON 99336
NPDES PERMIT WA-000367-1
May 23, 2003

Public notice for issuance of the **AGRIUM** NPDES Permit was published early in 2002. Comments were received by Ecology. The date for submittal of written comments was April 26, 2002. Ecology received one comment letter from a group of organizations listed below. Those comments have been included and the individual questions answered in this response to public comments document.

Changes have been made to the permit, where appropriate, to improve clarity and address the comments. Changes made are discussed in this response to comments. Because the permit changes are more restrictive than the original draft permit, issuance does not require a second public comment period.

The fact sheet has also been modified to correct several errors.

A copy of this response to comments, the corrected fact sheet, and the permit is being sent to those individuals or groups who provided written comments.

COMMENTS FROM:
COLUMBIA RIVERKEEPER
NORTHWEST ENVIRONMENTAL DEFENSE CENTER
SIERRA CLUB, WASHINGTON CHAPTER
WASHINGTON PUBLIC INTEREST RESEARCH GROUP
OREGON STATE PUBLIC INTEREST RESEARCH GROUP
OREGON WILDLIFE FEDERATION

1. Description of receiving waterbody and beneficial uses

Although the fact sheet for the proposed permit acknowledges that "the discharge outfall is located in the Columbia River approximately two miles downstream of the confluence with the Snake River" the fact sheet does nothing to describe the biological importance of this location. The fact sheet does not even state what species of salmon use this area or describe how the area is used by as critical habitat for multiple species of salmon. Because Ecology has a

responsibility under both state law and the CWA not just to meet numeric water quality and designated uses, but to protect existing uses as well, Ecology should describe what existing uses the permit is required to protect.

Question # 1 - What are the existing uses in the area of the applicant's outfall pipe?

Response:

As stated in the Fact sheet on page 20, WAC 173-201A defines this section of the river as a Class A waterbody. The characteristic uses of this class are further defined in WAC 173-201A and listed on page 23 as: " water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses."

Question # 2 - How will these species be affected by the applicant's discharges?

Response:

Ecology believes there will be no effect, except perhaps some avoidance reaction, on juvenile salmon migrating downstream. The river velocity at this location at the time of juvenile salmon migration (spring) is somewhere between 1.52 and 3.7 feet/second. Juveniles drifting, but not actively swimming will pass through the acute zone (32 feet) in 21 to 8.6 seconds. The incipient lethal temperature for salmonids acclimated at 12° C is 30.42° C for 30 seconds. The river temperature at the time of downstream migration is 10 to 15° C and the effluent temperature at this time of year is 30° C or less. The dilution that occurs after discharge from a diffuser is logarithmic so the effluent is approaching ambient temperatures (2° C difference) in a distance of 2 to 3 meters (10 feet). The time to drift through this distance is 6.5 seconds. In addition, juveniles utilize the upper water column of water during downstream migration and so may not even be exposed to the maximum temperature differential. Upstream migrants which would be exposed to maximum temperatures have the ability to avoid high temperatures. This avoidance may cause some loss of energy but not death.

Question #3 - What studies, if any, have been prepared that describe these uses or what analysis has Ecology used to identify the existing uses of the area?

Response:

See response to question 1.

2. Lack of current and accurate data and modeling

a. Toxicity data

The Whole Effluent Toxicity tests reported in the permit fact sheet did not contain data on any tests that were newer than six years old. The fact that these tests did show some significant toxicity on the tested species should have triggered Ecology to require extensive studies to determine whether the applicant's actual discharges were protecting existing and beneficial uses. Additionally, this data should have certainly been required prior to setting limits in the proposed permit that would allow for dramatic increases in the very pollutants thought to be responsible for the toxicity of the applicant's effluent that was observed.

b. Effect on salmonids and other threatened and sensitive species

The fact sheet Ecology prepared for the proposed permit lacks any mention of the sensitive, threatened or endangered species that occur in and around the applicant's outfalls. The applicant does not appear to have prepared any comprehensive studies on the aquatic and terrestrial species that occur in the area of its outfall that would be affected by the proposed mixing zone and initial dilution area.

Question # 4 - Is it correct that the proposed mixing zone would allow for acutely toxic concentrations of pollutants?

Response:

The proposed mixing zone would allow the acute numeric criteria for the protection of aquatic life to be exceeded for thirty two feet downstream and ten feet upstream of the discharge for a seven day period occurring on average once in every 10 years. Most of the time, the length of the zone in which the acute criteria would be exceeded would be less than 32 feet.

The toxicity of a pollutant is dependent upon the characteristic of the pollutant, the concentration of the pollutant, and the length of exposure to the pollutant. When EPA derived the numeric criteria, they used the data from four-day tests of a pollutant on several aquatic species. They extrapolated the data to derive a no-effect concentration to 95% of all aquatic species if the length of exposure is less than one hour. Therefore, even though the numeric criteria may be exceeded for a short distance around a discharge, the probability of any mortality for any organism floating or swimming through the effluent is very small.

Question # 5 - What species are likely to be affected by this zone of acute toxicity and what effects would this zone of lethal toxicity have on these species? Was this analyzed by Ecology and if so where?

Response:

The species most likely to be affected by the acute mixing zone are benthic species in the zone. The effect on those species subject to constant exposure and sensitive to the pollutant would be death. Ecology examined this possibility in the dilution modeling. Most effluents, because of diffuser design and effluent density, rise when discharged. In some exceptional cases with very shallow water and high density effluent, the effluent plume will hug the bottom. These cases can be determined from the hydraulic dilution modeling.

Question # 6 - How is allowing for this zone of lethal toxicity and even the zone of chronic toxicity consistent with the state and federal requirement to protect beneficial uses including existing uses that are not specifically listed as a beneficial use?

Response:

The promulgation of the State's Water Quality Standards, Chapter 173-201A WAC, is a process of balancing and preserving beneficial uses of the State's waters consistent with direction of the federal Clean Water Act. This permit, including the authorization of a mixing zone, is in conformance with the State's Water Quality Standards and agency policy for implementing that regulation.

Question # 7 - How many salmonids or other aquatic species are expected to be killed as a result of the lethal toxicity within the initial zone of dilution during the various up and down stream salmon and steelhead migrations? Approximately how many resident fish would be adversely affected by the proposed acute and chronic mixing zones? On what data is this estimate based?

Response:

Ecology expects that no salmonids or other aquatic species will be killed in the acute mixing zone during the various up and downstream salmon and steelhead migrations. Ecology also expects that no resident fish will be adversely affected except for some loss of habitat area. We base this on the numeric criteria, dilution characteristics, effluent characteristics and timing of anadromous fish runs.

Question # 8 - What effect will the zone of initial dilution and the mixing zone generally have on juvenile salmonids migrating down stream? Does Ecology acknowledge that juvenile salmonids will in fact be killed or negatively impacted during their downstream migration should they pass through the zone of initial dilution and/or the mixing zone? What data or documents support this finding?

Response:
See response to Question 2.

Question # 9 - If the applicant and Ecology lack any comprehensive biological analysis of the species that would be affected by the mixing zone including the zone of acute toxicity within the mixing zone, on what basis can Ecology conclude that the proposed discharges would not adversely affect or impair beneficial uses?
Response:
See response to question 2.

c. Mixing zone information

Ecology's failure to require a mixing zone study prior to the issuance of the proposed permit undermines any determination that the proposed discharges would protect beneficial uses and not violate water quality standards.

Question # 10 - Is it true that the applicant has not submitted any comprehensive mixing zone study that includes field measurements of dilution and water quality conditions within its current mixing zone?
Response:
It is not practical to collect samples within the mixing zone due to the current and the small size of the mixing box. Ecology has found that determining the location of the centerline boundary of a mixing zone in the field is almost impossible. Even in river situations where there is no tidal influence the flow is rarely laminar so the direction of downstream flow is constantly changing. In some discharge situations the percent flow or percent width is the most limiting so there is no actual aerial boundary. Where the distance boundary is limiting, Ecology instead relies on hydraulic mixing models developed by EPA to determine the amount of mixing.

Question # 11 - If Ecology feels that it is necessary for the applicant to prepare a mixing zone study in the future, on what grounds can Ecology issue the proposed permit without the study being prepared first?
Response:
The permit does not require a mixing zone study.

d. Modeling data and errors

The modeling used to support the proposed permit does not support that the proposed permit will not cause water quality violations outside the proposed mixing zone. Several specific problems underlie this concern. First, the fact sheet

assumes that the minimum flow for the site is 44,000 cfs. The only justification for relying on this is that it was the value used in the 1994 fact sheet. FS at 5.

As recognized by the fact sheet, actual flow values compiled by the USGS, however, suggest that the flow is actually 34,442.9 cfs. FS at 17. The fact sheet states that "this low flow (34,442.9 cfs) is very close to the flow predicted and used in the 1994 fact sheet of 44,000 cfs," and that "therefore a low flow of 44,000 cfs was used in the dilution model." Id. It appears from the fact sheet, however, that the 44,000 cfs overestimates the actual flow by about 27% and this seems significant. This is a concern given the potential for adverse affects to occur when there was less flow available to dilute the applicant's discharges. Using the higher flow levels appears to underestimate the effect of the applicant's discharges and absent some compelling reason to use a low flow estimate Ecology is aware is not accurate we believe that modeling should be recalculated based on the more realistic low flow estimates.

Question # 12 - Why did Ecology and the applicant use the 44,000 cfs flow value for the proposed permit when USGS data suggested that this was an overestimate?

Response:

44,000 cfs is the current minimum flow that was legislatively mandated and as controlled by Army Corp of Engineers' operation of adjacent dams. Current velocity of the river is required to approximate dilution with computer models. Extracting current velocity from a specific river segment using known volumetric flow totals from other locations produces an inexact value at best. As stated in the Fact Sheet (pg 19), the value used 0.37 ft/s, agrees well with measured values (0.64 – 1.26 ft/s at 180,000 cfs)near the point of discharge. In fact the derived 0.37 ft/s value (from 44,000 cfs) is lower and more conservative, as required. Again, as required, this produces the lowest (most conservative) dilution from the model. The historic USGS volumetric flow value offers no additional insight as to the actual low flow current velocity at the point of discharge.

Question # 13 - Why did Ecology not use the lower 34,442.9 cfs value?

Response:

This value was determined by adding historical UGS reported flows of the Columbia, Yakima, and Snake Rivers at points upstream of the discharge. It is not a very accurate representation of the actual flow at the discharge point. In order to evaluate the dilution it is necessary to have current velocity of the river. In this case the current velocity was calculated from the total river volumetric flow.

See also responses to questions 12 and 14.

The permit fact sheet's analysis to determine whether water quality standards for temperature would be violated is also flawed since the calculation incorrectly identifies conditions under which water quality violations for temperature are most likely to occur. First, the modeling only considered conditions that could occur during July and August when possible conditions in June and September should have also been considered. It is during these times when there may be the greatest likelihood that the applicant's discharges could cause a violation of water quality standards when ambient water temperature right at the 20 °C level.

The modeling prepared for the proposed permit did not appear to evaluate the scenario where the applicant's discharges are most likely to cause a violation of the water quality standards prohibiting the discharge from causing greater than a 0.3 °C increase in the ambient water temperature. When ambient water temperatures are low, the amount of change caused by the applicant's discharges will obviously be greater than when they are high. The situation that the applicant's modeling identified as achieving the lowest dilution ratios assumed an effluent Flow of 40 MGD, effluent Temperature of 32.2 °C, an ambient temperature of 21.1 °C, and an ambient velocity of 0.37 ft /sec. This produced acute and chronic dilution factors of 1.5 and 27 respectively.

The model did not, however, consider what would happen if these same discharges were made into water with an ambient temperature right at 20 °C and it should have. FS at 18. At 20 °C the dilution factor would have been lower so the temperature would have been greater at the edge of the mixing zone. By using an ambient temperature value of 21.1 °C instead of 20 °C the applicant has incorrectly assumed a higher dilution ratio than would occur at what would be the critical condition for determining compliance with the 0.3 °C increase standard. That the dilution ratio will decrease as the ambient water temperature decreases is supported by the modeling results highlighted below from table 8 of the fact sheet. Under the 19 mgd scenario, dilution is noticeably decreased when ambient temperature is decreased from 21.1 °C to 17.5 °C and all other factors are kept the same.

Excerpt from Table 8: Dilution Model Results and Input Factors

Effluent Flow (MGD)	Effluent Temp (°C)	Ambient Temp (°C)	Ambient Velocity (ft/s)	Acute Dilution factor	Chronic Dilution factor
19	32.2	21.1	3.7	16	139
19	32.2	17.5	3.7	15	119

Question # 14 - Does Ecology acknowledge that the dilution ratio would decrease as a result of a lower ambient temperature? If not, please explain why.
Response:
The dilution model was run correctly, to reflect the most conservative (lowest result) predicted dilutions. The predicted dilutions are correct and are not modified for particular scenarios. Multiple parameter variations have been taken into account by the dilution model as part of its statistical rigor.

Question # I5 - Does Ecology recognize that this would result in less dilution than has been predicted and that as a result the change in temperature at the outside of the mixing zone could exceed the allowed maximum change of 0.3 °C?
Response:
See response to question 14.

Question # 16- What are the dilution ratios for the applicant's maximum discharges during low flow conditions when ambient temperatures are 20 °C?
Response:
See response to question 14.

Additionally, and possibly more important, is the fact that in identifying the change in temperature that the applicant's discharges would cause, the applicant again used the ambient temperature value of 21.1 °C and did not consider the change in temperature the applicant's discharges would cause if ambient temperatures were at the water quality standard of 20 °C. FS at 25 and 26. These calculations must be made to consider the change in temperature at the outside of the mixing zone in ambient waters of 20 °C. Using the higher ambient temperature of 21.1 °C masks the actual change that would occur at the edge of the mixing zone as a result of the applicant's discharges and does not support that the 0.3 °C maximum change standard would be met. The modeling and thermal balance equations should be redone using an ambient water temperature of 20 °C, maximum effluent temperatures and minimum flows since this is when a violation of the 0.3 maximum temperature change standard is most likely to occur. Basing the applicant's temperature limits on the assumption of 21.1 °C ambient temperatures ignores the fact that temperatures between 20 °C and 21.1 °C are likely to regularly occur in the receiving waters.

Question # 17 - Does Ecology acknowledge that assuming higher ambient river temperatures result in a lower level of temperature changed as a result of the applicant's discharges then if lower ambient temperatures were used? If not, please explain.
Response:

As stated on page 26 of the fact sheet, "At an ambient river temperature of 20 degrees C, the allowable incremental increase is 1.3° C." This is actually a less restrictive increase than the chosen 21.1° C provides (0.3 °C). On the same page of the fact sheet, and following pages, more information is provided to explain the temperature selection.

Question # 18 - On what basis does Ecology believe that it does not need to consider the applicant's discharges under a situation where the ambient water temperature is right at the water quality standard of 20 °C in order to conclude that there will not be more than a 0.3 °C change in temperature outside the mixing zone due to the applicant's discharges?
Response:
See response to question 17. A temperature study requirement has been included in the final permit.

Question # 19 - What would the changes in temperature be under the different flow scenarios if an ambient temperature of 20 °C is used in both the modeling calculations and the thermal balance equations?
Response:
See response to question 17.

The draft permit is also flawed because it assumes a maximum ambient temperature of 21.1 °C despite the acknowledged data at a site (Ice Harbor Dam Tailrace) upstream of the applicant's discharge showing maximum temperatures of 22.5 °C. This underestimates the potential temperatures that could occur within the applicant's mixing zone. Modeling should be prepared using the most accurate data available since the applicant evidently decided not to take and Ecology decided not to require the very basis step of measuring ambient water temperature prior to submitting its application.

Question # 20 - On what basis would Ecology allow the applicant to use 21.1 °C as a maximum water temperature when data suggests that actual temperatures were as high as 22.5 °C?
Response:
See response to question 17. The 22.5°C temperature was taken at the Snake River tailrace. This temperature is not representative of that in the Columbia at the discharge. The selected temperature was the maximum measured nearest to the outfall (at Finley,) and as such is more reflective of the actual maximum ambient temperature. The temperature study required in the permit will provide more data to evaluate at the next permit term.

3. Anti-degradation Policy

As stated in the permit fact sheet, "the State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body." FS at 18. The draft permit, however, would allow the further degradation of existing water quality because it would set permit limits that would allow significant increases in pollutant discharges above those limits that are currently allowed. This would degrade water quality and threaten characteristic and existing uses that are already being negatively affected by poor water quality conditions. As a result, the proposed permit is inconsistent with state and federal anti-degradation requirements.

That the proposed permit would allow the applicant to dramatically increase its pollutant discharge and degrade existing water quality is clear. The fact sheet, for example, shows that the average reported Ammonia discharges between 1999 and 2000 were 9.4 lbs/day and yet the average permit limit being proposed would be 108 lbs/day. FS at 10. This would allow the applicant to increase its current Ammonia discharges by over a I 000% above their current discharges. While the maximum observed Ammonia discharges were 140 lbs/day the proposed permit would allow a maximum limit of 341.6. Id.

Similarly, the applicant has been discharging an average of 12.6 lbs/day of nitrate and the proposed permit would allow the average discharge of up to 206.7. FS at I0. The maximum nitrate discharges currently were 255 lbs/day while the permit would allow an increase of approximately a 300% to a limit of 610.3 lbs/ day. FS at 10. The applicant's flow would also be significantly increased under the proposed permit. These values are shown below.

Table 3 From Page 10 of the Permit Fact Sheet
Wastewater Characterization (from DMRs 1/98-2/00)

Parameter	Average Observed	Maximum Observed	Average Permit Limit	Maximum Permit Limit
Flow (mgd)	25.2	33.3	36.4	40
pH (lower avg - upper avg)	7.3 - 8.9	6.4 - 10.1	NA	6.0 - 9.0
Temperature (°C)	24.6	32.6	NA	See Table 2 for limits
Ammonia (lbs/day)	9.4	140	108	341.6
Nitrate (lbs/day)	12.6	255	206.7	610.3

Question # 21 - Does Ecology acknowledge that the proposed permit would allow the applicant to significantly increase its discharges of ammonia and nitrate

from what it is actually discharging at present? If so, how is the permit consistent with the anti-degradation requirements? If not, please explain.

Response:

Limits imposed on the facility are consistent with limits imposed in the previous permit. It is unclear why the commenter equates this with increased pollution. As stated in the permit fact sheet, "the State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body." With limits equal to the previous permit and more restrictive than Federal BAT guidelines, the commenter issue with anti-degradation requirements is unclear.

Question # 22 - On what legal grounds does Ecology believe it could allow the applicant to increase pollutant discharges consistent with the anti-degradation policy?

Response:

*See response to Question 21. Commenter assumes an incorrect premise. The water body in question is not 303D listed as an impaired water body for nitrate or ammonium, and as such there are not violations of the water quality standard for these pollutants. It is not clear that the applicant will increase these discharges. It is most probable discharges will remain the same or possibly decrease. However, should the applicant discharge at the maximum daily limit for NH_3 (341 lbs/day) this would equate to a discharge concentration of 2.04 mg/L (assume 20 MGD) at the end of pipe (no dilution). Comparing this result to the **water quality standard of 2000 mg/L** demonstrates no potential impact to the standard. As can be seen, at the maximum discharge permitted (actual is below 10 lbs/day), the discharge is at 1/10 of 1 percent of reaching the water quality standard. Also, as stated on page 14 of the fact sheet:*

*"There is a Human Health criterion of **10 mg/L** (for nitrate). The discharge of nitrate over the period of January 1998 through February 2000 produced a maximum of 255 lbs/day. With the maximum flow of 28.9 mgd during the month that nitrate discharge was recorded the concentration of nitrate would amount to a maximum of **1.058 mg/l** which is much less than the suggested criteria."*

The proposed increases of nitrate and ammonia are especially troubling because of the fact the Columbia is water quality limited for these pollutants. Ecology's proposal to allow increased discharges would clearly exacerbate violations of water quality standards for these pollutants and it is irresponsible simply to delay even basic efforts to remedy these violations until a TMDL is completed.

Question # 23 - Does Ecology acknowledge that if the applicant increased its nitrate and ammonia discharges as it could under the proposed permit, that this could exacerbate current violations of water quality standards for these pollutants? If not, why not.

Response:
See response to question 22.

The fact that the applicant's facility has significantly increased production in recent years highlights that the question of increasing pollutant loads from the facility and is not merely hypothetical. FS at 6.

Also, greatly troubling is the fact that the applicant's existing discharges, despite being well below permitted effluent limits, have already been shown to be toxic when fathead minnows were exposed to even a I0% mixture of the applicant's waste. FS at 9, 14. This fact only makes it more imperative that Ecology not allow further increases in ammonia and nitrate discharges as discussed below.

The fact sheet also acknowledges that "in cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria." FS at 18. Without any real explanation the fact sheet states "The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-20 1 A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit." FS at 18

The assumption that there is not adequate information on which to determine whether the natural conditions of the receiving water body are of higher quality that the criteria assigned is not reasonable. In terms of temperature, there is no reasonable basis for assuming that a 20 ° C temperature criteria accurately reflects natural temperatures in this section of the Columbia. Available temperature data supports that the temperature of the Columbia River was historically much lower that 20 ° C. Ecology should have applied a lower temperature standard that more accurately reflects natural temperatures in the Columbia River. Failure to do so is in violation of the anti-degradation policy.

Question # 24 - What information did Ecology consider in trying to answer the question of whether natural temperatures were lower than the 20 ° C standard that Ecology applied in considering the proposed permit?
Response:
As stated on page 18 of FS "…ambient river information on temperature on the Army Corps of Engineer's web-site…"

Question # 25 - Does Ecology really dispute that natural temperatures were below 20 ° C? If so, please describe and cite to any references that support the foundation of this belief.

Response:
Comment noted. See response to Question 24.

While the fact sheet did not discuss the size of the applicant's existing mixing zone, if the proposed mixing zone is larger than then applicant's existing mixing zone this would also violate the anti-degradation policy.

4. Mixing Zone

The proposed mixing zone would be 421 feet in length by 172 feet in width and would include an acutely toxic mixing zone of 32 feet by 172 feet. We strongly oppose the allowance for this mixing zone since it would have significant affects on migrating salmonids and characteristic uses and there is virtually no biological or physical analysis of the proposed mixing zone or its effects. Because the mixing zone is into a river that is water quality limited for the very pollutants that would be discharged, the mixing zone is also inappropriate.

Furthermore WAC 173-201A-100(2), requires that "A discharger shall be required to fully apply AKART prior to being authorized a mixing zone." The applicant is not being "required to fully apply AKART and therefore a mixing zone cannot be allowed.

The fact sheet plainly supports that no treatment whatsoever is being applied to reduce the temperature of the applicant's discharges stating, "The water used for non-contact cooling does not pass through any kind of treatment or cooling tower before being discharged to the Columbia River." FS at 7

Similarly, when discussing stricter limits on ammonia and nitrate that Ecology did not propose to apply in the draft permit, the fact sheet states "These performance based limits are the result of the plant's ability to control pollutants and the application of All Known Available and Reasonable Treatment (AKART) and Best Professional Judgment (BPJ) to make a determination. A performance based limit is not proposed at this time." FS 16

Question 26 - Does Ecology acknowledge that AKART is not being required for the applicant's heat, nitrate or ammonia discharges? If not, please explain.
Response:
Ecology has accepted the BAT Federal Guidelines as AKART for ammonia and nitrate. The limits applied to this facility are well below these guidelines. The facility is being required to perform a temperature study of the river in the vicinity of their discharge to establish local river conditions. They are also required to do an AKART study for temperature to determine if there are any feasible temperature reduction or treatment options available.

Question 27- Given the water quality limited status of the Columbia for the pollutants at issue in this permit, does Ecology believe that there is an assimilative capacity in the Columbia to accept the pollutants in the applicant's discharges?

Response:

Limits imposed on this facility are protective of water quality. See Response to Question 26.

Water quality standards limit temperature in two ways. Each classification has an upper limit and a maximum allowable rise. In this case the receiving water is class A fresh water (WAC 173-201A-130 (20)) and the maximum allowable river water temperature is 20.0ºC. When natural conditions exceed 20.0ºC, the allowable temperature rise is limited to 0.3ºC due to any single source or 1.1ºC due to all such activities combined. Since all the reaches of the Columbia River are considered impaired for temperature, EPA initiated the TMDL for waters within the States of Washington and Oregon. One of the first determinations was that "The effects of point sources and tributaries (non-point sources) on cross sectional average water temperatures in the main stems are for the most part quite small. The point sources can cause temperature plumes in the near-field but they do not result in measurable increases to the cross-sectional average temperature of the main stems. That is, the cumulative impact of all point sources is less than 0.14º C when temperature standards are exceeded in the river," (from the Columbia/Snake Rivers Preliminary Draft Temperature TMDL, pg. vi, 9/13/2002.) It is therefore important that any temperature impacts from applicable point sources be addressed in a consistent way.

Ecology may assign a heat load limit, based on the Waste Load Allocation (WLA), after the TMDL is final. The permit still requires a three part study: Agrium must monitor temperature in the Columbia River upstream and down stream from their outfall. The permit addresses AKART for temperature by requiring the facility to conduct an engineering study to evaluate availability and cost of technologies to reduce the temperature of the effluent during the critical period. This information will be used to determine whether the facility is at AKART for temperature. EPA is developing national guidance on the temperature issue, but currently no explicit policy exists that can be applied to the Agrium permit. Agrium will ultimately be required to perform within the WLA assigned by the TMDL to comply with the water quality standard.

Question 28- Does Ecology acknowledge that water quality standards for temperature, ammonia and nitrate will not be met at the edge of the applicant's mixing zone?

Response:

No. See responses to Question 21 & 22.

WAC 173-20 1 A- 1 00(4) states that "No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the department." Ecology, however, appears to have little data about either the existing biological uses of the area within and downstream of the proposed mixing zone and no basis for concluding that the proposed mixing zone would not have a reasonable potential to cause the loss of sensitive or important habitat, substantially interfere with existing uses, result in damage to the ecosystem or adversely affect public health.

Question # 29 - On the basis of what studies has Ecology concluded that the proposed mixing zone would not cause a loss to sensitive or important habitat?
Response:
The basis is the compliance with the State's water quality standards. See also response to questions 4 through 8.

Question # 30- Is it true that the area in which the mixing zone would occur is designated as critical habitat for multiple species of threatened salmonids?
Response:
In February 2000 the National Marine Fisheries Service (NMFS) designated the lower Columbia River as critical habitat for evolutionary significant units of Chinook, Chum, and Steelhead salmonids. Because the designation was challenged, however, implementation has been suspended pending further action by NMFS that complies with the National Environmental Policy Act. See also responses 1 thru 9.

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Question # 31- Would the proposed mixing zone have a positive or negative effect on salmonids and salmonid habitat?
Response:
See responses 1 thru 9.

Question # 32- How would salmonids and their habitat be affected by the proposed mixing zone? Is it accurate to say that there is a reasonable potential that salmon would not be able to use the proposed mixing zone for rearing and that the mixing zone would have a reasonable potential to cause stress to migrating adult or juvenile salmonids? Please explain.
Response:
See responses 1 thru 9.

WAC 173 -20 1 A- 1 00(6) requires that "The size of a mixing zone and the concentrations of pollutants present shall be minimized," but there is no indication that Ecology made any attempt to minimize the proposed mixing zone. In fact, the proposed mixing zone looks to be about the absolute maximum sized mixing zone that could be permitted under Washington law WAC 173-2OIA-100(7)(a)(i).

Question # 33- What steps did Ecology take to ensure that the proposed mixing zone was minimized?
Response:
The geometry of the mixing zone is defined by regulation. Ecology has not adopted any implementation procedures for minimization of mixing zones. In this case the major pollutant is heat for which the defined allowable size was authorized.

Question # 34- Did Ecology plan the mixing zone to accommodate a specific pollutant? If so, which pollutant was the driving factor in the proposed mixing zone size.
Response:
Ecology does not plan mixing zones to accommodate specific pollutants.

Question # 35- Is it correct to characterize the proposed mixing zone as the largest possible under WAC 173-201A-100(7)(a)(i). If not, please explain how much bigger the mixing zone could have been?
Response:
Yes

WAC 173 -201 A- 1 00(8) requires that:

> "Acute criteria are based on numeric criteria and toxicity tests approved by the department, as generally guided under WAC 173-201A-040 (1)-through (5), and shall be met as near to the point of discharge as practicably attainable. A zone where acute criteria may be exceeded is allowed only if it can be demonstrated to the department's satisfaction the concentration of, and duration and frequency of exposure to the discharge, will not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.

Question # 36- Has Ecology determined that the acute criteria will be met "as near to the point of discharge as practicably attainable?" If so, at what point can acute criteria be met? What calculations were used to calculate this distance? When were these calculations made? Have they been made? If not, on what

ground could Ecology conclude that WAC 173 -20 1 A- I 00(8)'s requirements have been met?

Response:

See response to question 4.

Question # 37- Has a biologist with Ecology analyzed the effect that the proposed discharges will have on salmonid migration? Where is this analysis provided and what did it conclude? If Ecology has not provided such anal sis on what grounds could the proposed mixing zone meet the requirements of WAC 173-201A-100(8)?

Response:

Ecology relies primarily on compliance with the water quality standards to assure that discharges do not interfere with beneficial uses including salmonid migration. See response to questions 2 and 7.

We are concerned that the proposed mixing zone is larger than the currently allowed mixing zone and therefore the proposed permit is in violation of the Clean Water Act's anti-backsliding requirement. 33 U.S.C. § 1342(o)(1). Additionally, allowing a larger mixing zone would also be inconsistent with the Washington anti-degradation rules. WAC 173-201A-070.

Question # 38- What is the size of the mixing zone allowed under the applicant's existing permit? Is this smaller than the proposed mixing zone?

Response:

In the proposed permit, Ecology authorized the mixing zone in accordance with WAC 173-201A. The size of the zone is defined within this regulation which is not subject to change. The size of the zone is described on page 23 of the Fact Sheet as follows:

> *"The chronic mixing zone shall extend a distance of 321 feet downstream from each of the diffuser ports, and a distance of 100 feet upstream from each of the diffuser ports. The chronic mixing zone shall not use greater than twenty-five percent of the flow or occupy greater than twenty-five percent of the river width. The zone of acute criteria exceedance shall extend a distance of 32 feet downstream and 10 feet upstream from each of the diffuser ports."*

This is applied to the diffuser length of 172 ft. in an average water depth of 30 feet. Neither the regulation nor the diffuser have changed since the previous permit, hence the mixing zone is the same.

The allowance for a 42-foot zone of acute toxicity violates the Clean Water Act's requirement that discharges are consistent with the protection of existing and

beneficial uses and is entirely inconsistent with the purposes and goals of the CWA, as well as, state law and at the very least sets the stage for federal ESA violations. Regardless of whether Ecology was able to win EPA's approval for state water quality standards that could arguably allow Ecology to permit the creation of a zone of acute toxicity in the middle of the Columbia River, the CWA does not allow for this type of exception to the requirement that beneficial uses be protected.

Question # 39- Please cite to any specific statutory authority in the Clean Water Act which gives Ecology the authority not to protect the waters that would be included as a part of both the acute and chronic mixing zones as the Act otherwise requires?

Response:

There is no specific statutory authority for mixing zones in the Clean Water Act. Mixing zones are a component of the State's Water Quality Standards, promulgated in accordance with the Water Quality Act of 1965, Publication. No. 89-234, 79 Stat. 903. EPA guidance to those responsible for promulgating State water quality standards acknowledges the use of mixing zones. EPA is responsible for approving the State's water quality standards and has approved Washington's Standards which incorporate the allowance for a mixing zone. Ecology evaluated the permit application and assessed the discharge within the context of the water quality standards, Chapter 173-201A WAC, which was promulgated to protect human health and the environment, are met by the source.

In considering whether the proposed mixing zone will result in the protection of characteristic uses and ecosystem functions, it seems essential that Ecology consider the cumulative effect of other mixing zones that Ecology and Oregon DEQ have allowed along the Columbia River. If Ecology looks only at the proposed mixing zone and puts blinders onto the countless other mixing zones it has allowed on the Columbia then it could not reasonably make the finding that the proposed mixing zone would not substantially interfere with characteristic uses such as salmon migration.

Question # 40- What is the total area of the Columbia River where water quality -standards are not being met as a result of an Ecology -approved mixing zone?

Response:

Washington water quality standards allow and Ecology has authorized a mixing zone for this discharge. The numeric water quality criteria may be exceeded within a mixing zone under the rationale that the small size of the mixing zone reduces the exposure period and therefore does not reduce the beneficial uses of the waterbody. The acute numeric criteria for the protection of aquatic life must be met at the boundary of the acute mixing zone. The chronic numeric

criteria for the protection of aquatic life must be met at the boundary of the chronic mixing zone. The numeric criteria for the protection of human health must be met at the boundary of the chronic zone.
At times during the critical time of the year, approximately June 15th through September 15th, the entire mixing zone is needed to meet water quality standards, at other times only a small portion of the authorized mixing zone is necessary.

Because the proposed mixing zone would include a 42 foot long zone of acute toxicity where water quality standards necessary to protect characteristic uses such as swimming, scuba diving and other water contact recreation, such as fishing, the proposed permit would subject any members of the public that come into contact with the acute mixing zone to unknown risks..

Question # 41- Do Ecology and the applicant have any plans to rope off or otherwise mark the 42 foot section of river this permit defines as a toxic mixing zone since it will not meet water quality standards necessary for swimming or water contact recreation? If not, does Ecology acknowledge that it would effectively be creating a hazard to public health and safe use of the River?
Response:
There is no need to rope off this section of water even if it were practical to do so. Exposure to the mixing zone, while recreating in the Columbia, poses no discrete risk to human health. The numeric water quality criteria may be exceeded within a mixing zone under the rationale that the small size of the mixing zone reduces the exposure period and therefore does not reduce the beneficial uses of the waterbody. The acute numeric criteria for the protection of aquatic life must be met at the boundary of the acute mixing zone; the chronic numeric criteria for the protection of aquatic life must be met at the boundary of the chronic mixing zone. The numeric criteria for the protection of human health must also be met at the boundary of the chronic zone.
The pollutants of most concern for this discharge are ammonia and nitrate. The concentration at the discharge point would be approximately 1mg/L at the maximum flow (40 MGD) and loading allowed. The human health criteria for nitrate is10 mg/L in fresh water. There is no human health criteria for ammonia.

Finally, the proposed permit does not contain any effluent monitoring requirements at the edge of either the chronic or acute mixing zones. Without such monitoring requirements Ecology and the public lack any reasonable basis for concluding that water quality standards at the edge of the mixing zones will be met. This need is certainly made more pressing by the lack of any comprehensive mixing zone study.

Question # 42- Why is there no provision for monitoring at the edge of the mixing zones? Without such monitoring, on what basis can Ecology assure that

water quality standards can be met? If Ecology believes that existing computer modeling is adequate, please describe the results of field verification of the accuracy of computer modeling if any exists.

Response

Ecology may require water column sampling and sediment sampling within the mixing zone area if we suspect water quality degradation, but, Ecology does not believe requiring sampling at the boundary of the mixing zone is worthwhile. Mixing zones are artificial regulatory constructs designed to limit the area of impact of the pollutants while also allowing the discharger some benefit of any assimilative capacity. Ecology has found that determining the location of the centerline boundary of a mixing zone in the field is almost impossible. Even in river situations where there is no tidal influence the flow is rarely laminar so the direction of downstream flow is constantly changing. In some discharge situations the percent flow or percent width is the most limiting so there is no actual aerial boundary. Where the distance boundary is limiting, Ecology instead relies on hydraulic mixing models developed by EPA to determine the amount of mixing. In some cases we require dye to be injected into the effluent at a known concentration. This dye can be measured at points downstream to verify the model predictions. As noted before, the design condition for determining mixing is the 10-year 7-day low flow. This means that the design condition occurs once every ten years on the average. It would be impossible to anticipate and sample to try to confirm pollution at such widely spaced events.

5. Pollutant specific concerns

a. Toxicity

Ecology 's treatment of toxic pollutants such as ammonia in the proposed permit is irresponsible and a serious violation of its duties under state and federal law. There is no question that the applicant has been discharging at "well below the existing [permit] limits." FS at 13. Ecology has acknowledged, however, that "even with the ammonia and nitrate concentrations and loads well within limits, some whole effluent toxicity tests indicated potential toxicity, likely due to ammonia." FS at 9. If Ecology has information that show that the applicant's current discharges, which are well below their permitted discharges, then there would seem to be a good basis for believing that even the applicant's existing discharges are not meeting water quality standards and pose a threat to characteristic and existing uses.

Instead of considering potential reductions in the applicant's current discharge, Ecology, in the proposed permit would allow the applicant to radically increase the toxicity of its current discharges. This is not only counter intuitive and an unfortunate reflection of Ecology priorities, but it is also illegal since Ecology

lacks a basis for concluding the allowed permit levels would be protective of existing uses and the maintenance of narrative water quality standards.

Referring to the technology based limits set by EPA which are even higher than the presently allowed limits, the permit fact sheet states, "because there has been a toxicity response indicated in a Whole Effluent Toxicity (WET) test, the above limits [EPA's limits] may not be fully protective of aquatic life." FS at 14. While this is certainly a safe assumption, the fact sheet, however, then goes on to state that "The ammonia and nitrate limit set in 1994 are protective of water quality and meet BAT. To prevent backsliding on the permit limits, the 1994 limits will be carried over into this permit."

Question # 43 - Given that the applicant's actual discharges are showing toxic effects even at concentrations representative of the edge of their mixing zone and the applicant's actual discharges are dramatically below their permitted effluent limits, on what basis can Ecology conclude that the permitted limits are protective of water quality and should be maintained in the proposed permit? (We assume that Ecology includes protection of existing and characteristic uses in the term "water quality" but if it does not please explain whether this same finding would apply to the protection of uses.)
Response:
See response to question 41.

Question # 44- Tables I and 2 in Appendix C list WET tests performed as late as 1996. Have any tests been performed since that time? If so, what did these tests show and why weren't they mentioned in the fact sheet?
Response:
No testing has been required or performed since that time.

Ecology also does not even appear certain that it is the ammonia discharges which are causing the toxicity. The fact that there may be another pollutant causing this toxicity that has not been disclosed or identified by the applicant is a real problem. That Ecology has not required the applicant to even identify the cause of toxicity that has been shown to occur in the applicant's discharges is disappointing and suggests a lack of serious concern on Ecology 's part to act in the public interest in protecting the Columbia River.

Question # 45- What evidence does Ecology have that suggests that ammonia is causing the toxicity problem? What other pollutants does Ecology suspect

could be causing the problem? Why has Ecology and the applicant failed to identify with clarity the actual cause of the problem.
Response:

Ammonia is a major pollutant of the discharge and is therefore suspected. Ecology is requiring further toxicity testing in the proposed permit to determine its cause.

We are also seriously concerned that the proposed permit basically ignores the fact that the Columbia is already water quality limited for temperature, ammonia, nitrates and other pollutants. That the receiving waters are currently violating water quality standards is not identified as a problem the proposed permit makes the slightest attempt to address.

In describing why the same ammonia and nitrate limits approved almost ten years ago would be applied to the proposed pen-nit, the fact sheet states "because a Total Maximum Daily Load (TMDL) is required on the Columbia River where waste load allocations (WLAs) will likely be set for ammonia and nitrate at each potential ammonia source, new limits will not be set for this facility." FS at 14. Waiting until some undefined future date when a TMDL is completed does not satisfy Ecology 's basic duty to ensure that the permits it approves do not cause or contribute to a violation of water quality standards. Characteristic and existing uses are being negatively affected today and therefore state and federal laws requiring these uses be protected are being violated. TMDLs are not the only tool Ecology can use to remedy an ongoing water quality violation. Ecology should have used the proposed permit as an opportunity to require Agrium to reduce the ammonia and nitrate discharges below what it is presently discharging, but instead used it as a chance to allow Agrium to dramatically increase its nitrate and ammonia discharges should it so choose.

Question # 46- Does Ecology acknowledge that excessive levels of ammonia and nitrates in the Columbia River are adversely affecting characteristic and existing uses?
Response:
See responses to questions 1 – 9, 29, 37, and 39 – 42.

Because of the high temperatures in the Columbia River and because the toxicity of ammonia is increased in higher temperature waters, Ecology should have been even more concerned with reducing ammonia levels. FS at 14.

Question # 47- In calculating whether there was a reasonable potential for the applicant's discharges to cause a water quality violation of ammonia did Ecology make this evaluation from the perspective of whether there would be ammonia violations at the end of pipe or at the edge of the mixing zone?
Response:
Both.

We strongly object to preparing a reasonable potential analysis from the perspective of whether there is a potential to cause a water quality violation at the end of site since the size of the mixing zone becomes the key factor in whether a given pollutant will require an effluent limit. The size of the mixing zone, however, appears to be arbitrarily created by Ecology.

We are also concerned that the proposed permit would not require the applicant to apply All Known and Reasonably Available Treatment (AKART) to control ammonia and nitrate discharges. Given that the applicant is actually meeting discharge levels dramatically lower than the levels now being proposed seems to make this fact difficult to dispute. The permit should be revised to identify what discharges could be achieved through AKART and require the applicant to meet these limits.

Question # 48- Does Ecology believe that the applicant is applying AKART to control its ammonia and nitrate discharges? Please explain.
Response:
See response to question 26.

Ecology also lacks a basis for permitting a host of discharges that it has not analyzed or reviewed to ensure compliance with water quality standards and the protection of characteristic uses, such as salmon spawning, and existing uses by the most sensitive aquatic species, such as insect, amphibians and algae.

The permit fact sheet acknowledges that:

> The Department of Ecology regularly receives requests from the Permittee to discharge neutralized 10% HCI cleaning solution used to clean the plant heat exchanger units during periodic turnarounds or maintenance shutdowns. The Department has also received requests to discharge approximately 6000 gallons of fluid used as compressor coolant, which may contain corrosion inhibitor (sodium hydroxide, sodium nitrate, and sodium molybdate). In the 1994 fact sheet the company stated that the acid cleaning solution would be neutralized to a pH of 6.5 to 7.5 before being discharged at a maximum rate of 35 gallons per minute, with a total discharge volume not to exceed 2,000 gallons.

Ecology, however, has not evaluated the effects of any of these discharges and has no basis for concluding that they will protect beneficial uses and not violate numeric water quality standards. The fact sheet plainly acknowledges that "No analysis has been conducted on these discharges to date." Instead, Ecology promises only that they will be assessed in the future stating "testing to characterize these discharges will be required during the next permit cycle under section S8 of the permit." FS at 10. The policy of discharge now, study the

potential effects later, is completely irresponsible and a clear violation of state and federal law since Ecology lacks a reasonable basis for concluding that theses discharges would meet water quality standards.

Question # 49- On what legal grounds does Ecology have to approve discharges without any analysis of the discharges it is approving?
Response:
Ecology has made a determination that these waste streams pose a negligible threat to water quality. Ecology may authorize waste streams based on knowledge of the nature of the waste stream. The sampling is for verification that these discharges are negligible. The permit has been changed to reflect Ecology's authorization of these non-routine discharges on a case-by-case basis.

Question #50- When Ecology decided to allow these discharges in the past at the request of the applicant, what process was used to approve this request? Was there any opportunity for public comment or review of these discharges and if not why not?
Response:
These waste streams are a standard part of operation for this type of facility. The approval is part of the application and permit package. Public review/comment is part of the permit process, as the commenter has just demonstrated. See response to Question 49 above.

b. Temperature

The proposed temperature limits would violate state and federal law since they would not protect existing uses and would not meet state water quality standards as described in the above sections. Applying a temperature standard of 68°F will not protect characteristic uses and the applicant's discharges will cause more than 0.3 °C temperature in increase at the outside of the proposed mixing zone. Additionally, the tiered temperature effluent limit is not a reasonable way to limit the applicant's effluent since it is not likely to actually protect beneficial uses and ensure that numeric standards are met.

c. pH

The applicant's existing permit had a pH average monthly pH limit in the range of 6 to 9. FS at 8. The existing limit pH was further limited by the requirement that 1) The total time during which the pH values are outside the required range of pH values shall not exceed 4 hours in any calendar month. 2. No individual excursion from the range of pH values shall exceed 30 minutes. FS at 9. The proposed permit would make the limit for pH more lenient by relaxing the conditions under which exceedances were allowed. This is in violation of the anti-backsliding policy and cannot be permitted.

Response:

This change was made to be consistent with federal allowances for pH that is continuously monitored. The facility's pH equipment occasionally needs to be calibrated and maintained. Unless the facility has duplicate equipment they would not be able to meet the dictionary definition of continuous. Duplicate pH monitors would be excessive for this discharge.

d. Turbidity

The proposed permit would not contain any limit on turbidity. Salmonids and other species negatively affected by turbid waters would be adversely affected by the proposed permit as a result. WAC 173-201A-030(2)(c)(vi) states that "turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU." The permit should contain a turbidity effluent limit because there is a reasonable potential that turbidity standards will be violated at the end of the applicant's outfalls. Additionally, the facility's turbidity discharges would not protect salmonids or water -quality standards for turbidity.

Question # 51- What is the maximum turbidity level in the applicant's discharges at each of the outfalls? What is the background turbidity level in the Columbia River during the low flow and high flow times of the year?
Response:

The maximum turbidity has not been measured in the applicants discharge. The Columbia River turbidity seems to vary from 2 NTU to 5 NTU.

Question # 52- On what grounds did Ecology conclude that turbidity limits were not required?
Response:

Turbidity is not a parameter generally considered in point source discharges except for water treatment back flush wastewater. Control of particulates as total suspended solids in an effluent usually results in low turbidity. Since the size of the particulates that go through the wastewater treatment facilities is of sufficient size to be captured on the filter media used in the TSS test method, little turbidity is expected. Given the control, monitoring, and low amount of TSS in the effluent, the addition of a limit and monitoring requirements for turbidity would serve no purpose.

Question # 53- Would the applicant's discharges have a reasonable potential to cause a violation of the turbidity standard? If not, why not?
Response:

No. See response to question 52.

The permit also fails to require any monitoring of turbidity and therefore is inconsistent with state and federal rules requiring such monitoring.

6. Monitoring requirements

The twice weekly monitoring requirements for ammonia and nitrate are insufficient given the observed toxic effects of the applicant's discharges and the need to reduce such effects. Daily monitoring should be required.
Response:

In Ecology's opinion daily monitoring for this discharge would be excessive given their compliance history and given their low potential to exceed discharge standards.

7. SEPA

The fact sheet states that "No changes in construction or water consumption or other environmental change have triggered the State Environmental Policy Act (SEPA)." FS at 10. The fact sheet, however, supports that there have been significant increases in water consumption and that average water intake has been increased from 23 mgd to 36.4 mgd at present. FS at 7

Question # 54- Why is this not the type of increased water consumption that would trigger SEPA review?
Response:
NPDES permitting is exempt from SEPA regulation. Specific construction activities, specific water use changes, or other specific applicable actions are subject to SEPA review.

8. Groundwater

The permit fact sheet admits that "Investigations of ground water conditions prior to 1991 found groundwater plumes containing above normal nitrate and ammonia nitrogen concentrations." FS at 10. Neither the fact sheet nor permit, however, address the source of this groundwater contamination or why the remediation project that should have been completed by 1998 was still continuing in 2002. The fact sheet fails to state whether the project is still continuing today. If groundwater pollution is continuing to be a problem at the applicant's site as it sounds like it is, then the permit evaluation should have included some analysis of the source of the groundwater pollution and explore whether that source continued to result in pollution of groundwater.

Question # 55- What is the source of the groundwater pollution containing above normal levels of nitrate and ammonia nitrogen concentrations?
Response:

Past facility operations appear to have impacted areas of ground water on the site.

If the applicant is discharging, either accidentally or intentionally, to groundwater than these discharges should have been included in the applicant's permit.

Question #56- Are numeric and use-based water quality standards for groundwater being met in the plume of nitrate and ammonia nitrogen concentrations? If not, why was this not discussed in the permit fact sheet and why was groundwater not even mentioned in the draft permit?
Response:

Current data indicates plumes are within water quality standards. Groundwater issues are covered in a State Permit mentioned in the NPDES permit. Those issues are not related to the discharge covered under this NPDES permit.

9. Conclusion

For the reasons described above we request that the proposed permit be withdrawn and that a new draft permit is prepared that is consistent with state and federal requirements. The permit should also reflect Ecology s mission to protect and improve Water quality. As with other recent permits, Ecology should frankly be embarrassed by the extent to which it is willing to ignore both applicable state and federal laws and relevant facts that should have resulted in dramatically stricter effluent limits in the proposed permit.
Response:
Ecology is authorized to write NPDES permits under delegation from the EPA, and is responsible to the people of this state –through directives from our legislature—for enforcing the permit requirements. We write each permit to control pollution, and to ensure statewide permit consistency in our permit determinations. Agrium's proposed discharge limits are more stringent than the federal technological standards and conform to the state water quality criteria. These standards and criteria are embodied in laws on which the general public had opportunities to comment prior to their adoption –both the federal and the state Clean Water Acts.

The laws were designed to preserve the environment and to protect public health. Both federal and state rules and regulations undergo a similar public adoption process –a process of balancing and preserving beneficial uses of the

state's waters, consistent with federal law. This permit conforms to the state's Water Quality Criteria and the Department's policy for implementing that regulation.